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SEQUENCE LISTING

<110> Liu, Wei
Ozenberger, Bradley A.
Wu, Leeying
Lo, Ching-Hsiung Frederick
Haney, Steven A.
Sookdeo, Hemchand
Lee, Jee Hyung

<120> NOVEL BRAIN-LOCALIZED PROTEIN KINASES HOMOLOGOUS TO
HOMEODOMAIN-INTERACTING PROTEIN KINASES

<130> 01997.001800

<150> US 60/456,958

<151> 2003-03-25

<150> US 60/491,251

<151> 2003-07-31

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<170> PatentIn version 3.2

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Thr	Gly	Glu	Met	Val	Ala	Ile	Lys	Ile	Leu	Lys	Asn	Asp	Ala	Tyr	Arg		
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aac	cgc	atc	atc	aag	aat	gag	ctg	aag	ctg	ctg	cac	tgc	atg	cga	ggc	192	
Asn	Arg	Ile	Ile	Lys	Asn	Glu	Leu	Lys	Leu	Leu	His	Cys	Met	Arg	Gly		
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Asp	Ala	Leu	Lys	Phe	Tyr	Leu	Val	Phe	Glu	Leu	Leu	Glu	Gln	Asn	Leu		
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Phe	Glu	Phe	Gln	Lys	Glu	Asn	Asn	Phe	Ala	Pro	Leu	Pro	Ala	Arg	His		
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Gln	Ser	Arg	Phe	Tyr	Arg	Ala	Pro	Glu	Ile	Leu	Leu	Gly	Leu	Pro	Phe		
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Cys	Glu	Lys	Val	Asp	Val	Trp	Ser	Leu	Gly	Cys	Val	Met	Ala	Glu	Leu		
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Arg	Tyr	Ile	Cys	Glu	Thr	Gln	Gly	Leu	Pro	Lys	Pro	His	Leu	Leu	His		
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Ala	Ala	Arg	Lys	Ala	His	His	Phe	Phe	Lys	Arg	Asn	Pro	His	Pro	Asp		
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gac Asp	cag Gln 290	atc Ile	gag Glu	aca Thr	gtg Val	aat Asn 295	ggt Gly	ggc Gly	agt Ser	gtg Val	gcc Ala 300	agt Ser	cgg Arg	ctg Leu	acc Thr	912
ttc Phe 305	ccc Pro	gac Asp	cgg Arg	gag Glu	gca Ala 310	ctg Leu	gca Ala	gag Glu	cac His	gcc Ala 315	gac Asp	ctc Leu	aag Lys	agc Ser	atg Met 320	960
gtg Val	gag Glu	ctg Leu	atc Ile	aaa Lys 325	cgc Arg	atg Met	ctg Leu	acc Thr	tgg Trp 330	gaa Glu	tca Ser	cat His	gaa Glu	cgc Arg 335	atc Ile	1008
agc Ser	ccc Pro	agt Ser	gct Ala 340	gcc Ala	ctg Leu	cgc Arg	cac His	ccc Pro 345	ttc Phe	gtg Val	tcc Ser	atg Met	cag Gln 350	cag Gln	ctg Leu	1056
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cac His 465	atg Met	ccc Pro	gac Asp	tca Ser	ggc Gly 470	ccc Pro	gag Glu	ccc Pro	atc Ile	ctg Leu 475	gcc Ala	ttc Phe	tat Tyr	agc Ser	agc Ser 480	1440
cgc Arg	ctg Leu	gca Ala	ggc Gly	cgc Arg 485	cac His	aag Lys	gcc Ala	cgc Arg	aag Lys 490	cca Pro	cct Pro	gcg Ala	ggt Gly	tcc Ser 495	aaa Lys	1488
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gag Glu	gat Asp	gac Asp 515	agg Arg	ccc Pro	tgc Cys	cgg Arg	ggc Gly 520	agc Ser	agc Ser	tgg Trp	gag Glu	gaa Glu 525	gga Gly	gag Glu	cat His	1584

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 Gly Pro Asn Ile Asp Asn Met Thr Met Glu Ala Glu Arg Pro Asp Pro
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gag ctc ttc gac ccc agc agc tgt ccc gga gaa tgg ctg agt gag cca 1728
 Glu Leu Phe Asp Pro Ser Ser Cys Pro Gly Glu Trp Leu Ser Glu Pro
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gac tgg acc ctg gag ggc gtc agg ggc cca cgg gct cag ggg ctc cca 1776
 Asp Trp Thr Leu Glu Gly Val Arg Gly Pro Arg Ala Gln Gly Leu Pro
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ccc cgc cgc tcc cac cag cat ggt ccg ccc cgg ggg gcc acc agt ttc 1824
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<212> PRT

<213> Macaca fascicularis

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Thr Gly Glu Met Val Ala Ile Lys Ile Leu Lys Asn Asp Ala Tyr Arg
 35 40 45

Asn Arg Ile Ile Lys Asn Glu Leu Lys Leu Leu His Cys Met Arg Gly
 50 55 60

Leu Asp Pro Glu Glu Ala His Val Ile Arg Phe Leu Glu Phe Phe His
 65 70 75 80

Asp Ala Leu Lys Phe Tyr Leu Val Phe Glu Leu Leu Glu Gln Asn Leu
 85 90 95

Phe Glu Phe Gln Lys Glu Asn Asn Phe Ala Pro Leu Pro Ala Arg His
 100 105 110

Ile Arg Thr Val Thr Leu Gln Val Leu Arg Ala Leu Ala Arg Leu Lys
 115 120 125

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Glu Leu Ala Ile Ile His Ala Asp Leu Lys Pro Glu Asn Ile Met Leu
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 Val Asp Gln Thr Arg Cys Pro Phe Arg Val Lys Val Ile Asp Phe Gly
 145 150 155 160
 Ser Ala Ser Ile Phe Ser Glu Val Arg Tyr Val Lys Glu Pro Tyr Ile
 165 170 175
 Gln Ser Arg Phe Tyr Arg Ala Pro Glu Ile Leu Leu Gly Leu Pro Phe
 180 185 190
 Cys Glu Lys Val Asp Val Trp Ser Leu Gly Cys Val Met Ala Glu Leu
 195 200 205
 His Leu Gly Trp Pro Leu Tyr Pro Gly Asn Asn Glu Tyr Asp Gln Val
 210 215 220
 Arg Tyr Ile Cys Glu Thr Gln Gly Leu Pro Lys Pro His Leu Leu His
 225 230 235 240
 Ala Ala Arg Lys Ala His His Phe Phe Lys Arg Asn Pro His Pro Asp
 245 250 255
 Ala Ala Asn Pro Trp Gln Leu Lys Ser Ser Ala Asp Tyr Leu Ala Glu
 260 265 270
 Thr Lys Val Arg Pro Leu Glu Arg Arg Lys Tyr Met Leu Lys Ser Leu
 275 280 285
 Asp Gln Ile Glu Thr Val Asn Gly Gly Ser Val Ala Ser Arg Leu Thr
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 Phe Pro Asp Arg Glu Ala Leu Ala Glu His Ala Asp Leu Lys Ser Met
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 Val Glu Leu Ile Lys Arg Met Leu Thr Trp Glu Ser His Glu Arg Ile
 325 330 335
 Ser Pro Ser Ala Ala Leu Arg His Pro Phe Val Ser Met Gln Gln Leu
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 Arg Asn Ala His Glu Thr Thr His Tyr Tyr Gln Leu Ser Leu Arg Ser
 355 360 365
 Tyr Arg Leu Ser Leu Gln Val Glu Gly Lys Pro Pro Ala Pro Val Val

370

375

380

Ala Ala Glu Asp Gly Thr Pro Tyr Tyr Arg Leu Ala Glu Glu Lys Glu
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Ala Ala Gly Met Gly Ser Val Ala Ser Ser Ser Pro Phe Phe Arg Glu
 405 410 415

Glu Lys Ala Pro Gly Met Gln Arg Ala Ile Asp Gln Leu Asp Asp Leu
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Ser Leu Gln Glu Ala Gly His Gly Leu Trp Gly Glu Thr Cys Thr Asp
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Val Val Ser Asp Met Met Ala Pro Leu Lys Ala Ala Ile Thr Gly Arg
 450 455 460

His Met Pro Asp Ser Gly Pro Glu Pro Ile Leu Ala Phe Tyr Ser Ser
 465 470 475 480

Arg Leu Ala Gly Arg His Lys Ala Arg Lys Pro Pro Ala Gly Ser Lys
 485 490 495

Ser Asp Ser Asn Leu Ser Asn Leu Ile Arg Leu Ser Gln Val Ser Pro
 500 505 510

Glu Asp Asp Arg Pro Cys Arg Gly Ser Ser Trp Glu Glu Gly Glu His
 515 520 525

Leu Gly Ala Ser Ala Glu Pro Pro Ala Ile Leu Gln Arg Asp Gly Asp
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Gly Pro Asn Ile Asp Asn Met Thr Met Glu Ala Glu Arg Pro Asp Pro
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Glu Leu Phe Asp Pro Ser Ser Cys Pro Gly Glu Trp Leu Ser Glu Pro
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Asp Trp Thr Leu Glu Gly Val Arg Gly Pro Arg Ala Gln Gly Leu Pro
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Pro Arg Arg Ser His Gln His Gly Pro Pro Arg Gly Ala Thr Ser Phe
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Leu Gly Lys Gly Thr Phe Gly Glu Val Ala Lys Gly Trp Arg Arg Ser
20 25 30

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Thr Gly Glu Met Val Ala Ile Lys Ile Leu Lys Asn Asp Ala Tyr Arg
35 40 45

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Ser Arg Ile Ile Lys Asn Glu Leu Lys Leu Leu Arg Cys Val Arg Gly
50 55 60

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Leu Asp Pro Asp Glu Ala His Val Ile Arg Phe Leu Glu Phe Phe His
65 70 75 80

gat gcc ctc aag ttc tac ctg gtc ttt gag cta ttg gag caa aac ctc 288
Asp Ala Leu Lys Phe Tyr Leu Val Phe Glu Leu Leu Glu Gln Asn Leu
85 90 95

ttt gag ttc cag aaa gag aac aac ttc gca ccc ctc cct gcc agg cac 336
Phe Glu Phe Gln Lys Glu Asn Asn Phe Ala Pro Leu Pro Ala Arg His
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atc cga act gtc aca ctg cag gtc cta aga gcg ctg gcc cgg ctc aag 384
Ile Arg Thr Val Thr Leu Gln Val Leu Arg Ala Leu Ala Arg Leu Lys
115 120 125

gag ttg gct atc atc cat gct gac ctc aag cca gaa aac att atg ttg 432
Glu Leu Ala Ile Ile His Ala Asp Leu Lys Pro Glu Asn Ile Met Leu
130 135 140

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tcg Ser	gcc Ala	agc Ser	ata Ile	ttc Phe 165	agt Ser	gag Glu	gtg Val	cgc Arg	tat Tyr 170	gtg Val	aag Lys	gag Glu	cct Pro	tac Tyr 175	atc Ile	528
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cac His	ctg Leu 210	ggc Gly	tgg Trp	cct Pro	ctc Leu	tac Tyr 215	cca Pro	ggc Gly	aac Asn	aat Asn	gag Glu 220	tat Tyr	gac Asp	cag Gln	gtg Val	672
cgc Arg 225	tac Tyr	atc Ile	tgt Cys	gag Glu	acc Thr 230	cag Gln	ggc Gly	tta Leu	ccc Pro	aag Lys 235	ccc Pro	cat His	ctg Leu	ctg Leu	cat His 240	720
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cgt Arg	agt Ser	gcc Ala 355	cac His	gag Glu	gcc Ala	acc Thr	cgc Arg 360	tac Tyr	tac Tyr	cag Gln	ctg Leu	tcc Ser 365	ctc Leu	cga Arg	ggc Gly	1104
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245

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